

Attorney Docket No. 2481.1767  
Application No.: 10/014,472

REMARKS

Reconsideration and reexamination of this application is respectfully requested.

**A. Status of the Claims**

The listing of claims presented herein amends claims 1 and 3, cancels claims 11-18, and adds new claims 19-25. Claims 1, 3-8, and 19-25 are pending in this application. Applicants are canceling claims 11-18 solely because the Office has withdrawn them from consideration as allegedly drawn to a non-elected invention. (Office Action at item 3.) The amendments to the claims are made without prejudice to, or disclaimer of, the subject matter recited in the claims prior to amendment. Applicants reserve the right to prosecute claims directed to the cancelled subject matter in continuation and/or divisional applications.

New claims 19-25 find support, for example, in originally filed claims 1 and 3-8. As these claims do not introduce new matter their entry is proper and respectfully requested.

**B. Claims 1, 3-8, and 19-25 Are Enabled**

The Office rejected claims 1 and 3-8 under 35 U.S.C. § 112, first paragraph, for an alleged lack of enablement. (Office Action at item 9.) Specifically, the Office contends that the specification "does not reasonably provide enablement for treating the wide breadth of disorders conceivably embraced by the claims, and in particular, does not reasonably provide enablement for preventing any disorder." (Office Action at item 9.) Applicants traverse the rejection.

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In assessing enablement, the relevant inquiry is whether one of skill in the art could practice the invention as claimed based on the disclosure in the specification, coupled with information known in the art, without undue experimentation. See M.P.E.P. § 2164.01. Factors relevant to determining whether an undue amount of experimentation would be necessary to practice an invention as claimed include (1) the breadth of the claims; (2) the nature of the invention; (3) the state of the prior art; (4) the level of ordinary skill in the art; (5) the level of predictability in the art; (6) the amount of direction provided by the inventor; (7) the existence of working examples; and (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. M.P.E.P. § 2164.01(a), *citing In re Wands*, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988). An analysis of these factors shows that Applicants' claims are enabled.

As described in the application, Applicants have discovered that enoxaparin may be used to inhibit the activity of a family of matrix metalloproteinases implicated in causing degenerative joint disorders, connective tissue disorders, wound healing disturbances, disorders of the locomotor system, or disturbances of bone metabolism, to thereby treat the disorders (Wands factor 2). (Application at paragraphs 004, 007-009, and 0013.) Applicants' claims are directed to methods of treating these disorders (claims 1 and 3-8), or methods of preventing the recurrence of these disorders (claims 19-25) (Wands factor 1).

Treatment of patients with enoxaparin is well known in the art, for example enoxaparin is widely used as an antithrombotic (Wands factors 3 and 4). The application provides at least two forms of direction as to how to use enoxaparin to

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practice the claimed methods (Wands factor 6). First, it provides typical dosage ranges that may be used. (Application at paragraphs 009 and 016.) Second, the Examples also provide detailed guidance of which concentrations of enoxaparin inhibit the activity of the matrix metalloproteinases involved in causing the disorders that are treated or prevented from recurring by the claimed methods. (Application at pages 7-13.) In view of the high level of skill in the art of pharmacokinetics, including specifically the pharmacokinetics of enoxaparin, the skilled artisan can use the concentrations provided by Applicants' disclosure to determine the appropriate doses of enoxaparin for administration to patients to achieve plasma concentrations in the ranges provided in the Examples. This does not represent an undue amount of experimentation (Wands factor 8) and the fact that this amount of experimentation is necessary does not represent unpredictability (Wands factor 5). Rather, this is precisely how a dose is determined for any drug.

For the reasons described above, the Office's arguments in Paper No. 7 in support of the conclusion that the claims are not enabled are untenable. First, the Office contends that it is not clear which disorders would be effected by inhibiting the matrix metalloproteinases described in the application. (Paper No. 7 at page 4.) In fact, as clearly stated in the application, the disorders recited in the claims are the disorders that would be affected. (E.g., application at paragraph 008.)

It appears that the Office's primary concern is based on its contention that "while certain agents and compositions are known to treat certain forms of inflammation, no effective agent or composition has been found for the treatment of all types of tissue/joint disorders." (Paper No. 7 at pages 4-5.) However, Applicants are not

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claiming a method of treating or preventing the recurrence of all types of these disorders, only those types recited in the claims, which are known to be associated with elevated levels of the matrix metalloproteinases that are inhibited by enoxaparin. As such, claims 1 and 3-8, and new claims 19-25 are clearly enabled as to methods of treating disorders and methods of preventing the recurrence of the disorders recited in the claims. Applicants request that the rejection be withdrawn.

**C. Claims 1, 3-8, and 19-25 Are Not Indefinite**

The Office also rejected claims 1 and 3-8 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. (Office Action at item 10.) Specifically, according to the Office the term "enhanced activity" in claim 1 is a relative term that renders the claims indefinite. (Office Action at item 10.) Applicants disagree. However, in an effort to speed prosecution of this application Applicants have amended claim 1 herein to remove the term "enhanced activity," and have not included the term in new claims 19-25, thus obviating the basis for this rejection. Accordingly, Applicants respectfully request that the Office withdraw this rejection.

**D. The Yeda Reference Does Not Anticipate Claims 1, 3-8, and 19-25**

The Office further rejected claims 1 and 3-8 under 35 U.S.C. § 102(b), as allegedly anticipated by WO 92/19249 ("Yeda"). (Office Action at item 12.) According to the Office, Yeda discloses the administration of low molecular weight heparin compositions, including enoxaparin compositions, for prevention and/or treatment of

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pathological processes involving the induction of TNF- $\alpha$  secretion. (Office Action at item

12.) Applicants respectfully traverse this rejection.

At the outset, Applicants note that it is not clear what basis the Office relies on to support the contention that the disclosure by Yeda, of prevention and/or treatment of pathological processes involving the induction of TNF- $\alpha$  secretion, is a disclosure of a method of treating one of the disorders recited in Applicants' claims. In any event, Yeda can only anticipate Applicants' claims if the reference discloses each and every element of the claims. See *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987); M.P.E.P. § 2131. Claim 1, and claims 3-8 as they depend from claim 1, recite "[a] method of treating . . . a degenerative joint disorder, connective tissue disorder, wound healing disturbance, disorder of the locomotor system, or disturbance of bone metabolism." Claim 3 recites that the disorder is "osteoarthroses, spondyloses, chondrolysis, collagenoses, immunological or metabolism-related acute or chronic arthritides, arthropathies, or myalgias." Yeda does not disclose a method of treating any of these disorders. Accordingly, Applicants request that the Office withdraw this rejection.

Regarding the new claims, claim 19, and claims 20-25 as they depend from claim 19, recite "[a] method of preventing the recurrence of . . . a degenerative joint disorder, connective tissue disorder, wound healing disturbance, disorder of the locomotor system, or disturbance of bone metabolism." Claim 3 recites that the disorder is "osteoarthroses, spondyloses, chondrolysis, collagenoses, immunological or metabolism-related acute or chronic arthritides, arthropathies, or myalgias." Yeda does

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not disclose a method of preventing the recurrence of any of these disorders. Thus, Yeda does not anticipate the new claims.

**E. Conclusion**

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims 1, 3-8, and 19-25.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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